

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application

Listing of Claims:

1. (Previously Presented) A light-emitting diode comprising:

a substrate made of group III-V nitride semiconductor;

a first n-type semiconductor layer containing indium and formed over a main surface of the substrate;

a light-emitting layer formed over the first n-type semiconductor layer;

a second n-type semiconductor layer formed between the substrate and the first n-type semiconductor layer; and

a third n-type semiconductor layer formed between the first n-type semiconductor layer and the light-emitting layer.

2. (Previously presented) The diode of claim 1,

wherein the substrate is made of gallium nitride.

3. (Previously presented) The diode of claim 1,

wherein the main surface of the substrate is polished.

4. (Previously presented) The diode of claim 3,

wherein the main surface of the substrate is etched.

5. (Previously presented) The diode of claim 3,

wherein the main surface of the substrate is planarized.

6. (Previously presented) The diode of claim 1,

wherein the light-emitting layer has a multiple quantum well structure formed by alternately stacking a quantum well layer and a barrier layer, and
the quantum well layer has a thickness of 1 to 2.5 nm inclusive.

7. (Previously presented) The diode of claim 1,

wherein the first n-type semiconductor layer is made of a compound whose general formula is represented by $\text{In}_a\text{Al}_b\text{Ga}_{1-a-b}\text{N}$ ($0 < a \leq 1$, $0 \leq b < 1$, $a+b \leq 1$).

8. (Previously presented) The diode of claim 7,

wherein the aluminum content of the first n-type semiconductor layer is 3% or lower.

9. (Previously presented) The diode of claim 1,

wherein the first n-type semiconductor layer has a thickness of 10 nm to 1 μm inclusive.

10. (Cancelled)

11. (Previously presented) The diode of claim 1,

wherein the second n-type semiconductor layer is made of a compound whose general formula is represented by $\text{In}_c\text{Al}_d\text{Ga}_{1-c-d}\text{N}$ ($0 \leq c < 1$, $0 \leq d < 1$, $c+d < 1$).

12. (Previously presented) The diode of claim 1,
wherein the second n-type semiconductor layer is an n-type contact layer.

13. (Cancelled)

14. (Currently amended) ~~The diode of claim 1,~~

A light-emitting diode comprising:

a substrate made of group III-V nitride semiconductor;

a first n-type semiconductor layer containing indium and formed over a main surface of
the substrate;

a light-emitting layer formed over the first n-type semiconductor layer;

a second n-type semiconductor layer formed between the substrate and the first n-type
semiconductor layer; and

a third n-type semiconductor layer formed between the first n-type semiconductor layer
and the light-emitting layer,

wherein the third n-type semiconductor layer is an n-type contact layer.

15. (Currently amended) ~~The diode of claim 1, further comprising~~

A light-emitting diode comprising:

a substrate made of group III-V nitride semiconductor;

a first n-type semiconductor layer containing indium and formed over a main surface of
the substrate;

a light-emitting layer formed over the first n-type semiconductor layer;

a second n-type semiconductor layer formed between the substrate and the first n-type semiconductor layer;

a third n-type semiconductor layer formed between the first n-type semiconductor layer and the light-emitting layer; and

a fourth n-type semiconductor layer formed between the first n-type semiconductor layer and the light-emitting layer.

16. (Previously presented) The diode of claim 15,

wherein the fourth n-type semiconductor layer is made of a compound whose general formula is represented by $\text{Al}_e\text{Ga}_{1-e}\text{N}$ ($0 \leq e < 1$).

17. (Previously presented) The diode of claim 16,

wherein the fourth n-type semiconductor layer is a cladding layer.

18. (Previously presented) The diode of claim 17,

wherein the cladding layer has a thickness of 5 to 200 nm inclusive.

19. (Previously presented) The diode of claim 1, further comprising:

an n-type contact layer which is formed between the substrate and the light-emitting layer

and a portion of which is exposed;

an n-side electrode formed on the exposed portion of the n-type contact layer;

an n-type cladding layer formed between the first n-type semiconductor layer and the

light-emitting layer;

a p-type semiconductor layer formed on the light-emitting layer; and
a p-side electrode formed over the p-type semiconductor layer,
wherein the device is mounted with an element formation surface thereof facing a
submount for mounting.

20. (Previously Presented) An illuminating device comprising multiple light-emitting
diodes,

wherein the diodes including:

a substrate made of group III-V nitride semiconductor;
a first n-type semiconductor layer containing indium and formed over a main surface of
the substrate; and

a light-emitting layer formed over the first n-type semiconductor layer.

21. (Previously presented) The diode of claim 1, wherein the light-emitting layer has
a multiple quantum well structure formed by alternately stacking a quantum well layer made of
group III-V nitride semiconductor not containing As, P and Sb, and a barrier layer made of group
III-V nitride semiconductor.